

MD 355 at Cedar Lane Phase 4 BRAC Improvements

Traffic Analysis Update
BRAC Integration Committee (BIC) Meeting
March 19, 2013



Agenda

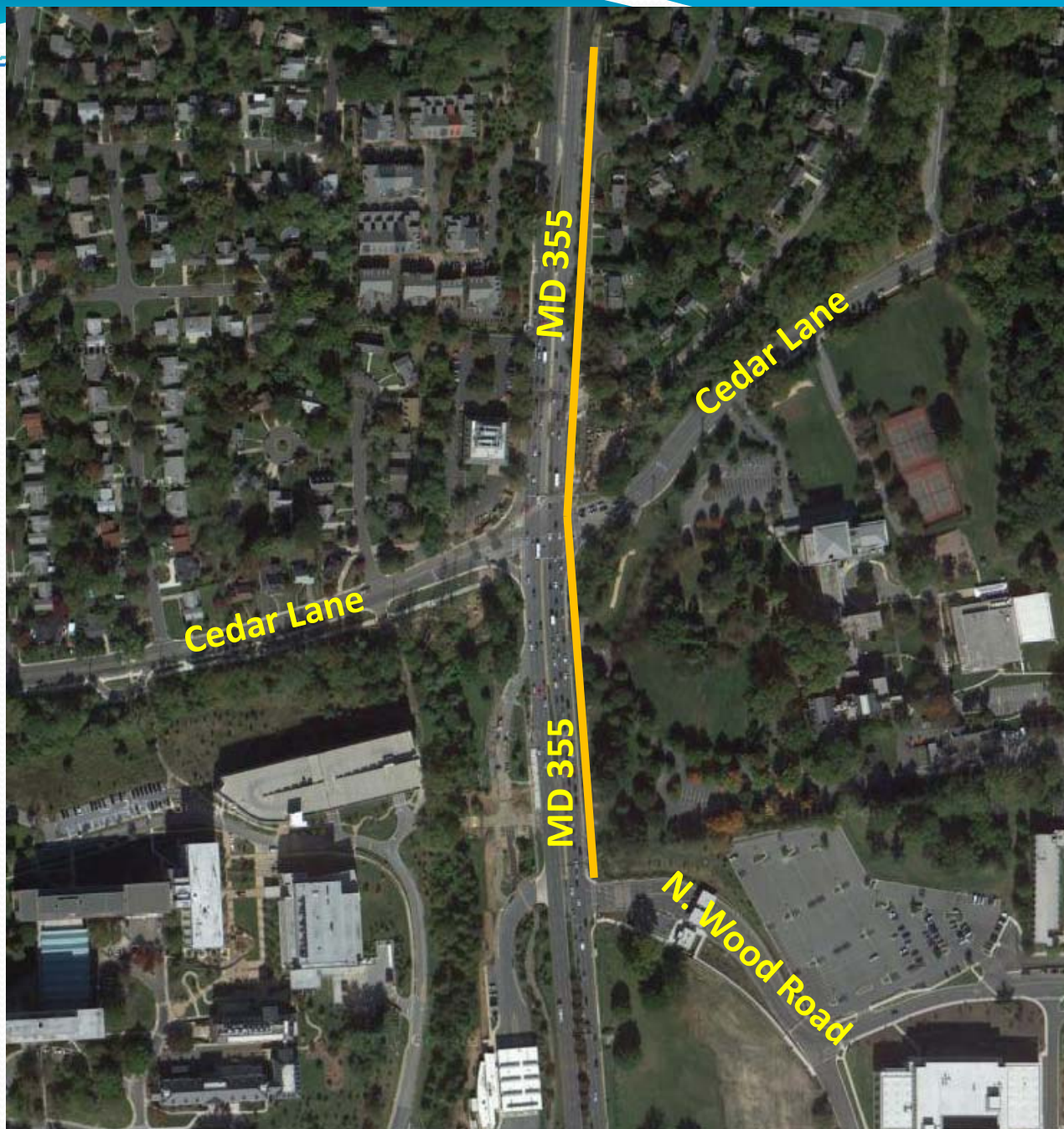
- Original Design Concept
- Analysis Tools
- Traffic Volume Sets
- North Wood Road Intersection
- Hybrid Option
- Locust Hill Community Coordination
- Locust Hill Community Concerns
- Contact Info

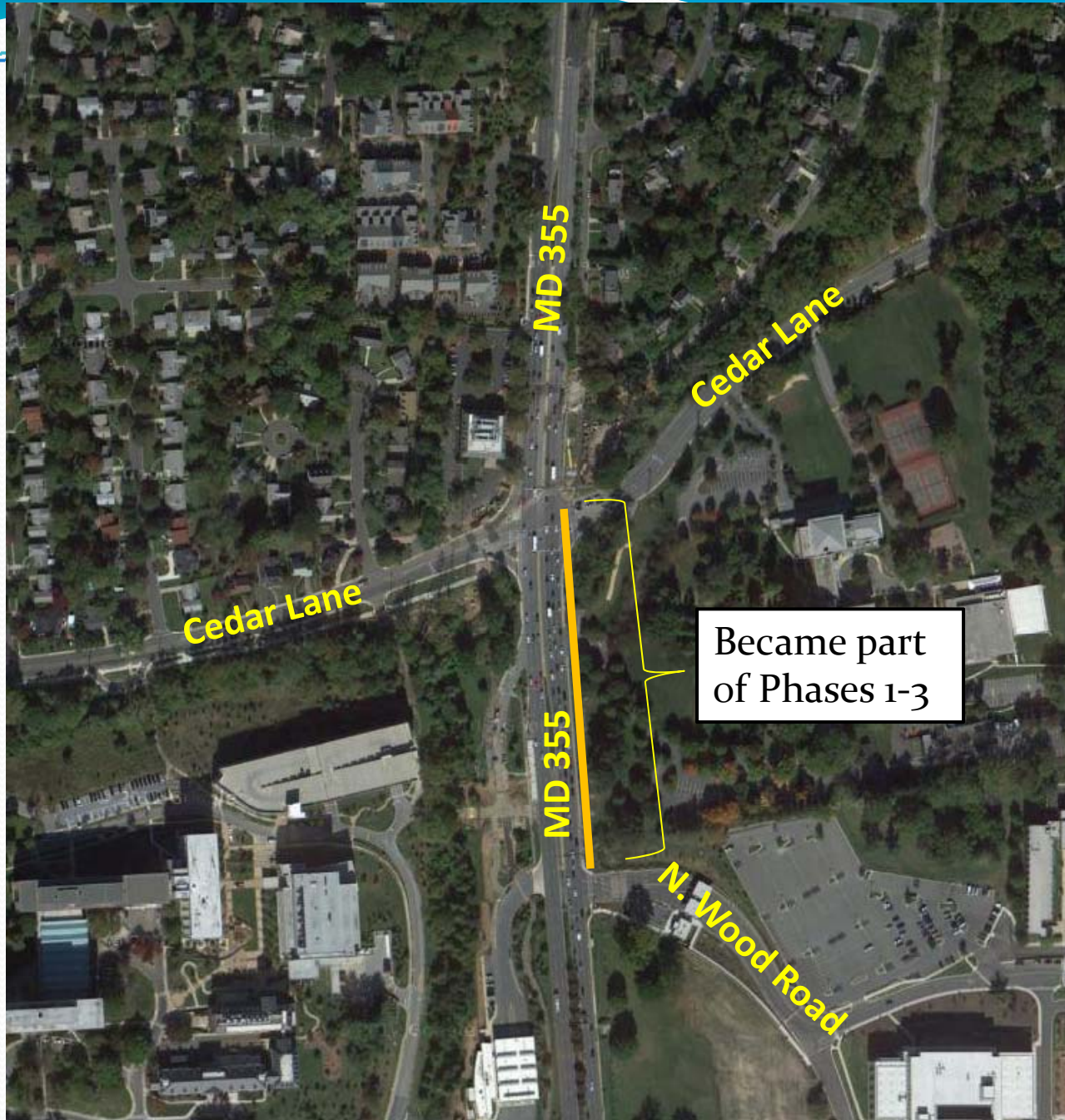


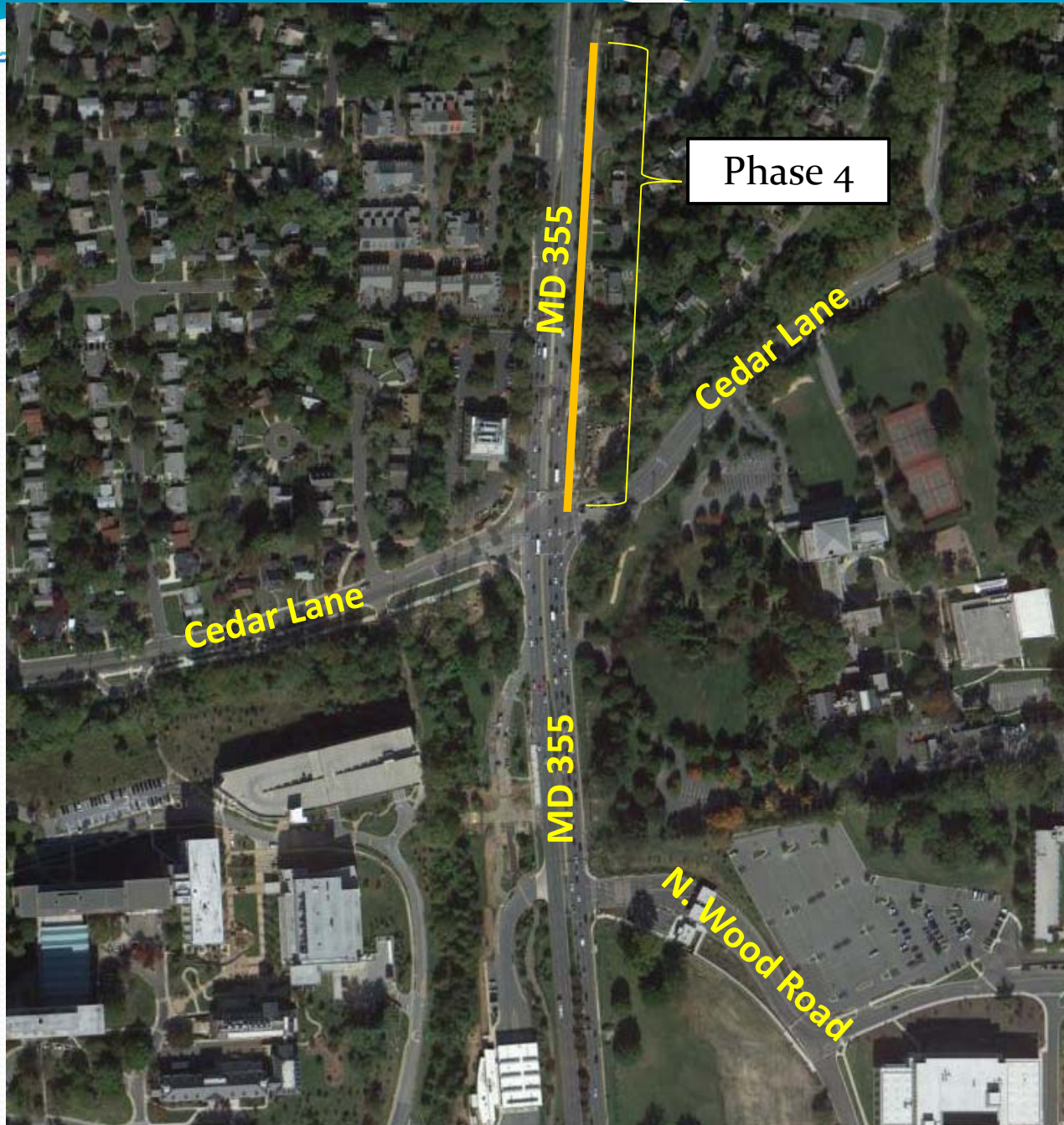


Original Design Concept

- Add northbound lane on MD 355 from North Wood Road to north of Cedar Lane
- Provide “free” right turn movement exiting NNMC at North Wood Road
- Provide four (4) through lanes on MD 355 at Cedar Lane signal
- Four (4) lanes merge to three (3) lanes north of Cedar Lane
- Provides minimum delay and travel times
- **Original concept did not include phases**







Analysis Tools

- Synchro
 - Based on formulas in Highway Capacity Manual (HCM)
 - Calculates Level of Service (LOS) and delay
 - Essentially treats intersections as isolated locations
- SimTraffic
 - Based on simulation of vehicles traveling through network
 - Results vary with each run
 - Reports average results of multiple runs
 - Used primarily for travel time data



Traffic Volume Sets

- Original BRAC forecasts developed in 2007
 - Projected traffic volumes following BRAC in 2011
 - Primary source used for operational analyses (all projects)
 - Best reflection of actual demand
- SHA conducted new traffic counts in March 2012
 - Actual “on the ground” data following BRAC implementation
 - However, count volumes are “metered” by congestion and work zone
 - Used to supplement original forecasts



Synchro Analysis Results (PM Peak)

- With Original BRAC Forecasts
 - No Build: LOS F (167.5 sec/veh)
 - Build Phases 1-3: LOS E (60.8 sec/veh)
 - Build Phase 4: LOS D (52.3 sec/veh)
- Using 2012 Counts
 - No Build: LOS F (98.8 sec/veh)
 - Build Phases 1-3: LOS D (47.9 sec/veh)
 - Build Phase 4: LOS D (44.3 sec/veh)



North Wood Road Intersection

- Stop-controlled intersection under pre-BRAC conditions (excessive delays)
- Installed signalized triple right turn in July 2011 per Navy request (ahead of BRAC implementation)
- Long-term fate of intersection unknown
 - Keep signal vs. replace with free right
 - Transportation Workgroup will decide based on field data from monitoring program
- Benefits of Phase 4 influenced by North Wood Road intersection



Hybrid Option

- SHA proposed hybrid option at North Wood Road
- Would include “free” right and keep signal
- Goals
 - Reduce red time for MD 355 northbound
 - Maintain signal to reduce weaving issues for NNMC traffic
- Unfortunately, hybrid option not feasible
 - Geometric constraints
 - Weaving issues for MD 355 traffic
 - Operational and safety concerns

Locust Hill Community Coordination

- Hired their own traffic consultant
- Multiple letters and responses
 - April 26, 2012
 - July 26, 2012
 - September 6, 2012
 - March 14, 2013
- Several meetings on-site and at SHA
 - March 27, 2012
 - May 4, 2012
 - February 8, 2013



Locust Hill Community Concerns

- Will Phase 4 provide benefits if signal at North Wood Road remains?
 - Latest analysis results (January 7, 2013 memo) show travel time savings in SimTraffic from Phase 4
- Safety of merge point
 - NCHRP Report 707 – “analysis of crash data did not highlight any unusual safety concerns”
- Can widening occur south of North Wood Road instead?
 - Widening south of North Wood Road would not provide corridor travel time savings per SimTraffic



Contact Information:

Traffic Related Questions:

- Mr. Matt Snare, SHA, Data Services Engineering Division (Travel Forecasting), 410-545-5646 or msnare@sha.state.md.us

Design/Project Related Questions:

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